Nationwide House Energy Rating Scheme
NatHERS Certificate No. 0006112106-01

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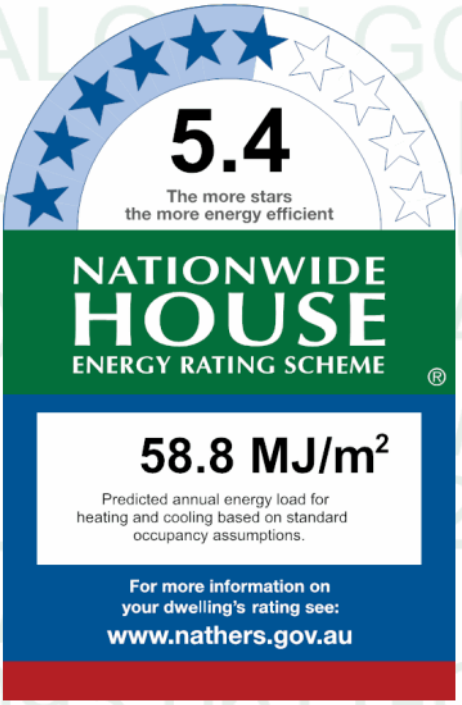

Property

Address	Unit 1, 143 Balgowlah Road , Balgowlah , NSW , 2093
Lot/DP	Lot 17 DP 9362
NCC Class*	1a
Type	New Home

Plans

Main Plan	Project 02001 02-06-21
Prepared by	Xu

Construction and environment

Assessed floor area (m^2)*		**Exposure Type**
Conditioned*	129.8	Suburban
Unconditioned*	31.9	**NatHERS climate zone**
Total	161.7	56
Garage	17.5	

Thermal performance

Heating	Cooling
38.1 MJ/m^2	20.7 MJ/m^2

Accredited assessor

Name	Peter Waller
Business name	BASIX Certificate Centre
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Accreditation No.	20322

Assessor Accrediting Organisation

ABSA

Declaration of interest Declaration completed: no conflicts

About the rating

NatHERS software models the expected thermal energy loads using information about the design and construction, climate and common patterns of household use. The software does not take into account appliances, apart from the airflow impacts from ceiling fans.

Verification

To verify this certificate, scan the QR code or visit hstar.com.au/QR/Generate?p=dQlwjjbiK.
When using either link, ensure you are visiting hstar.com.au

National Construction Code (NCC) requirements

The NCC's requirements for NatHERS-rated houses are detailed in 3.12.0(a)(i) and 3.12.5 of the NCC Volume Two. For apartments the requirements are detailed in J0.2 and J5 to J8 of the NCC Volume One.

In NCC 2019, these requirements include minimum star ratings and separate heating and cooling load limits that need to be met by buildings and apartments through the NatHERS assessment. Requirements additional to the NatHERS assessment that must also be satisfied include, but are not limited to: insulation installation methods, thermal breaks, building sealing, water heating and pumping, and artificial lighting requirements. The NCC and NatHERS Heating and Cooling Load Limits (Australian Building Codes Board Standard) are available at www.abcb.gov.au.

State and territory variations and additions to the NCC may also apply.

* Refer to glossary.

Certificate check

Ensure the dwelling is designed and then built as per the NatHERS Certificate. While you need to check the accuracy of the whole Certificate, the following spot check covers some important items impacting the dwelling's rating.

Genuine certificate

Does this Certificate match the one available at the web address or QR code in the verification box on the front page? Does the set of NatHERS-stamped plans for the dwelling have a Certificate number on the stamp that matches this Certificate?

Ceiling penetrations*

Does the 'number' and 'type' of ceiling penetrations (e.g. downlights, exhaust fans, etc) shown on the stamped plans or installed, match what is shown in this Certificate?

Windows

Does the installed window meet the substitution tolerances (SHGC and U-value) and window type, of the window shown on this Certificate?

Apartment entrance doors

Does the 'External Door Schedule' show apartment entrance doors? Please note that an "external door" between the modelled dwelling and a shared space, such as an enclosed corridor or foyer, should not be included in the assessment (because it overstates the possible ventilation) and would invalidate the Certificate.

Exposure*

Has the appropriate exposure level (terrain) been applied? For example, it is unlikely that a ground-floor apartment is "exposed" or a top floor high-rise apartment is "protected".

Provisional* values

Have provisional values been used in the assessment and, if so, noted in "additional notes" below?

Additional notes

Window and glazed door *type and performance*

Default* windows

Window ID	Window Description	Maximum U-value*	SHGC*	Substitution tolerance ranges	
				SHGC lower limit	SHGC upper limit
ALM-001-01 A	Aluminium A SG Clear	6.7	0.57	0.54	0.60
ALM-002-01 A	Aluminium B SG Clear	6.7	0.70	0.67	0.74
TIM-001-01 W	Timber A SG Clear	5.4	0.56	0.53	0.59
ALM-001-03 A	Aluminium A SG High Solar Gain Low-E	5.4	0.49	0.47	0.51
ALM-002-03 A	Aluminium B SG High Solar Gain Low-E	5.4	0.58	0.55	0.61

Custom* windows

Window ID	Window Description	Maximum U-value*	SHGC*	Substitution tolerance ranges	
				SHGC lower limit	SHGC upper limit
No Data Available					

Window and glazed door *schedule*

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Garage	ALM-002-01 A	AFW2404	2400	450	Other	00	N	None
Garage	ALM-001-01 A	AAW0615	600	1500	Awning	60	W	None
Garage	ALM-001-01 A	AAW0615	600	1500	Awning	60	W	None
Laundry	ALM-001-01 A	ADR2107	2065	762	Other	95	W	None
WC	ALM-002-01 A	ADW1308	1375	850	Double Hung	22	W	None
Kit Liv Entry	TIM-001-01 W	TDR0709	700	900	Other	95	N	None
Kit Liv Entry	ALM-002-03 A	AFW0724	750	2400	Other	00	W	None
Kit Liv Entry	ALM-002-03 A	ALW2315	2370	1595	Louvre	60	W	None
Kit Liv Entry	ALM-002-03 A	ALW2324	2370	2390	Louvre	60	W	None
Kit Liv Entry	ALM-002-03 A	ASD2440	2400	4000	Sliding	30	S	None
Kit Liv Entry	ALM-002-03 A	AFW1708	1700	850	Other	00	W	None
Kit Liv Entry	ALM-002-03 A	AFW1708	1700	850	Other	00	W	None
B1 & WIR	ALM-002-03 A	ADW2107	2140	700	Double Hung	45	N	None
B1 & WIR	ALM-001-03 A	ADR2113	2140	1300	Other	90	N	None
B1 & WIR	ALM-002-03 A	ADW2107	2140	700	Double Hung	45	N	None
B1 & WIR	ALM-001-03 A	AAW0624	600	2410	Awning	45	W	None
B1 & WIR	ALM-002-03 A	ADW1208	1200	850	Double Hung	45	W	None
Ensuite	ALM-001-01 A	AAW0612	600	1210	Awning	90	W	None
Bath	ALM-002-01 A	ADW1214	1200	1450	Double Hung	22	W	None
B2	ALM-002-03 A	ADW1224	1200	2410	Double Hung	22	W	None
B3	ALM-002-03 A	ADW1224	1200	2410	Double Hung	22	W	None
B4	ALM-001-03 A	AAW0624	600	2400	Awning	40	W	None
B4	ALM-002-03 A	AFW2404	2400	450	Other	00	S	None
B4	ALM-001-03 A	ADR2413	2400	1300	Other	90	S	None
B4	ALM-002-03 A	AFW2404	2400	450	Other	00	S	None

Roof window *type and performance*

Default* roof windows

Window ID	Window Description	Maximum U-value*	SHGC*	Substitution tolerance ranges	
				SHGC lower limit	SHGC upper limit
No Data Available					

Custom* roof windows

Window ID	Window Description	Maximum U-value*	SHGC*	Substitution tolerance ranges	
				SHGC lower limit	SHGC upper limit
No Data Available					

* Refer to glossary.

Roof window *schedule*

Location	Window ID	Window no.	Opening %	Height (mm)	Width (mm)	Orientation	Outdoor shade	Indoor shade
No Data Available								

Skylight *type and performance*

Skylight ID	Skylight description
No Data Available	

Skylight *schedule*

Location	Skylight ID	Skylight No.	Skylight shaft length (mm)	Area (m^2)	Orientation	Outdoor shade	Diffuser	Skylight shaft reflectance
No Data Available								

External door *schedule*

Location	Height (mm)	Width (mm)	Opening %	Orientation
Garage	2450	2500	100	N
Kit Liv Entry	1700	900	95	N

External wall *type*

Wall ID	Wall type	Solar absorptance	Wall shade (colour)	Bulk insulation (R-value)	Reflective wall wrap*
EW-001	Timber/Brick wall/Plasterboard	30	Light	Glass fibre batt: R2.0	No
EW-002	Retaining Concrete wall	50	Medium		No
EW-003	Brick wall	50	Medium		No
EW-004	Timber	30	Light		No
EW-005	Timber/Plasterboard	30	Light	Glass fibre batt: R2.0	No
EW-006	Timber/Brick wall/Plasterboard	30	Light		No

External wall *schedule*

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* maximum projection (mm)	Vertical shading feature (yes/no)
Garage	EW-005	2900	610	N	4570	Yes
Garage	EW-005	2900	3600	E	1700	Yes
Garage	EW-006	2900	3000	N	550	Yes
Garage	EW-006	2900	5400	W	550	Yes
Garage	EW-002	200	3700	S		No
Garage	EW-002	200	1700	E		No
Laundry	EW-001	2700	1500	W	550	Yes

* Refer to glossary.

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* maximum projection (mm)	Vertical shading feature (yes/no)
WC	EW-001	2700	1900	W	550	Yes
Kit Liv Entry	EW-005	2900	1000	N	4570	Yes
Kit Liv Entry	EW-001	2700	9800	W	550	Yes
Kit Liv Entry	EW-001	2700	4800	S	3680	Yes
Kit Liv Entry	EW-005	2600	1900	W	700	Yes
B1 & WIR	EW-005	2600	4300	N	1150	Yes
B1 & WIR	EW-005	2600	3300	W	210	Yes
B1 & WIR	EW-005	2600	400	S	8270	Yes
B1 & WIR	EW-005	2400	2000	W	700	Yes
Ensuite	EW-005	2400	1600	W	700	Yes
Bath	EW-005	2400	2500	W	700	Yes
B2	EW-005	2600	400	N	8270	Yes
B2	EW-005	2600	3300	W	210	Yes
B3	EW-005	2600	3300	W	210	Yes
B3	EW-005	2600	600	S	3790	Yes
B4	EW-005	2600	3000	W	900	Yes
B4	EW-005	2600	3600	S	700	Yes
RGF	EW-004	300	750	S		No
RFF	EW-004	500	2000	N	300	Yes
RFF	EW-003	850	19000	E	3000	Yes
RFF	EW-004	500	2000	S	300	Yes

Internal wall *type*

Wall ID	Wall type	Area (m^2)	Bulk insulation
IW-001	Plasterboard/Brick wall	96.94	
IW-002	Plasterboard	60.32	
IW-003	Plasterboard	57.26	Glass fibre batt: R2.0
IW-004	Plasterboard	1.22	Glass fibre batt: R2.0

Floor *type*

Location	Construction	Area (m^2)	Sub-floor ventilation	Added insulation (R-value)	Covering
Garage/Ground	as_FLOR-B001 #2051 © 100mm Concrete Floor slab with Trowel Finish (R0.0 insul underl)	17.50			
Laundry/Ground	Waffle Pod © 85mm Concrete Floor slab with Ceramic tile floor	5.60		R0.6	Ceramic tile
WC/Ground	Waffle Pod © 85mm Concrete Floor slab with Ceramic tile floor	2.00		R0.6	Ceramic tile
Kit Liv Entry/Ground	Waffle Pod © 85mm Concrete Floor slab with timber Floating floor	58.00		R0.6	

* Refer to glossary.

Location	Construction	Area (m)	Sub-floor ventilation	Added insulation (R-value)	Covering
B1 & WIR/Outdoor Air	as_FLOR-B014 #2016 © Framed flr with carpet-underfelt - Villaboard ceiling under - R2.5 bulk insul	6.10		R2.5	Carpet 10 + rubber underlay 8
B1 & WIR/Garage	as_FLOR-B014 #2016 © Framed flr with carpet-underfelt - Plasterboard ceiling under - R2.5 bulk insul	14.60		R2.5	Carpet 10 + rubber underlay 8
B1 & WIR/Kit Liv Entry	as_FLOR-B014 #2016 © Framed flr with carpet-underfelt - Plasterboard ceiling under - R0.0 bulk insul	3.30			Carpet 10 + rubber underlay 8
Ensuite/Garage	as_FLOR-B014 #2016 © Framed flr with Ceramic Tile - Plasterboard ceiling under - R2.5 bulk insul	0.30		R2.5	Ceramic tile
Ensuite/Laundry	as_FLOR-B014 #2016 © Framed flr with Ceramic Tile - Plasterboard ceiling under - R0.0 bulk insul	4.00			Ceramic tile
Bath/Kit Liv Entry	as_FLOR-B014 #2016 © Framed flr with Ceramic Tile - Plasterboard ceiling under - R0.0 bulk insul	6.80			Ceramic tile
B2/Kit Liv Entry	as_FLOR-B014 #2016 © Framed flr with carpet-underfelt - Plasterboard ceiling under - R0.0 bulk insul	10.70			Carpet 10 + rubber underlay 8
B3/Kit Liv Entry	as_FLOR-B014 #2016 © Framed flr with carpet-underfelt - Plasterboard ceiling under - R0.0 bulk insul	10.70			Carpet 10 + rubber underlay 8
B4/Kit Liv Entry	as_FLOR-B014 #2016 © Framed flr with carpet-underfelt - Plasterboard ceiling under - R0.0 bulk insul	2.20			Carpet 10 + rubber underlay 8
B4/Outdoor Air	as_FLOR-B014 #2016 © Framed flr with carpet-underfelt - Villaboard ceiling under - R2.5 bulk insul	8.60		R2.5	Carpet 10 + rubber underlay 8
Hall/Kit Liv Entry	as_FLOR-B014 #2016 © Framed flr with carpet-underfelt - Plasterboard ceiling under - R0.0 bulk insul	11.30			Carpet 10 + rubber underlay 8
RGF/Garage	Plasterboard No Insulation	2.60			
RGF/Outdoor Air	Eaves soffit	9.10			
RGF/Laundry	Plasterboard 10 mm + R5.0 bulk insulation	1.60		R5.0	
RGF/WC	Plasterboard 10 mm + R5.0 bulk insulation	2.00		R5.0	
RGF/Kit Liv Entry	Plasterboard 10 mm + R5.0 bulk insulation	7.70		R5.0	
RFF/Outdoor Air	Eaves soffit	16.40			
RFF/Kit Liv Entry	Plasterboard 10 mm + R5.0 bulk insulation	5.30		R5.0	
RFF/B1 & WIR	Plasterboard 10 mm + R5.0 bulk insulation	24.00		R5.0	
RFF/Ensuite	Plasterboard 10 mm + R5.0 bulk insulation	4.30		R5.0	
RFF/Bath	Plasterboard 10 mm + R5.0 bulk insulation	6.80		R5.0	
RFF/B2	Plasterboard 10 mm + R5.0 bulk insulation	10.70		R5.0	
RFF/B3	Plasterboard 10 mm + R5.0 bulk insulation	10.70		R5.0	
RFF/B4	Plasterboard 10 mm + R5.0 bulk insulation	10.80		R5.0	
RFF/Hall	Plasterboard 10 mm + R5.0 bulk insulation	11.30		R5.0	

Ceiling *type*

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap*
B1 & WIR/Garage	as_FLOR-B014 #2016 © Framed flr with carpet-underfelt - Plasterboard ceiling under - R2.5 bulk insul	R2.5	No
Ensuite/Garage	as_FLOR-B014 #2016 © Framed flr with Ceramic Tile - Plasterboard ceiling under - R2.5 bulk insul	R2.5	No
RGF/Garage	Plasterboard No Insulation		No
Ensuite/Laundry	as_FLOR-B014 #2016 © Framed flr with Ceramic Tile - Plasterboard ceiling under - R0.0 bulk insul		No

* Refer to glossary.

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap*
RGF/Laundry	Plasterboard 10 mm + R5.0 bulk insulation	R5.0	No
RGF/WC	Plasterboard 10 mm + R5.0 bulk insulation	R5.0	No
B1 & WIR/Kit Liv Entry	as_FLOR-B014 #2016 © Framed flr with carpet-underfelt - Plasterboard ceiling under - R0.0 bulk insul		No
Bath/Kit Liv Entry	as_FLOR-B014 #2016 © Framed flr with Ceramic Tile - Plasterboard ceiling under - R0.0 bulk insul		No
B2/Kit Liv Entry	as_FLOR-B014 #2016 © Framed flr with carpet-underfelt - Plasterboard ceiling under - R0.0 bulk insul		No
B3/Kit Liv Entry	as_FLOR-B014 #2016 © Framed flr with carpet-underfelt - Plasterboard ceiling under - R0.0 bulk insul		No
B4/Kit Liv Entry	as_FLOR-B014 #2016 © Framed flr with carpet-underfelt - Plasterboard ceiling under - R0.0 bulk insul		No
Hall/Kit Liv Entry	as_FLOR-B014 #2016 © Framed flr with carpet-underfelt - Plasterboard ceiling under - R0.0 bulk insul		No
RGF/Kit Liv Entry	Plasterboard 10 mm + R5.0 bulk insulation	R5.0	No
RFF/Kit Liv Entry	Plasterboard 10 mm + R5.0 bulk insulation	R5.0	No
RFF/B1 & WIR	Plasterboard 10 mm + R5.0 bulk insulation	R5.0	No
RFF/Ensuite	Plasterboard 10 mm + R5.0 bulk insulation	R5.0	No
RFF/Bath	Plasterboard 10 mm + R5.0 bulk insulation	R5.0	No
RFF/B2	Plasterboard 10 mm + R5.0 bulk insulation	R5.0	No
RFF/B3	Plasterboard 10 mm + R5.0 bulk insulation	R5.0	No
RFF/B4	Plasterboard 10 mm + R5.0 bulk insulation	R5.0	No
RFF/Hall	Plasterboard 10 mm + R5.0 bulk insulation	R5.0	No

Ceiling *penetrations**

Location	Quantity	Type	Diameter (mm^2)	Sealed/unsealed
No Data Available				

Ceiling *fans*

Location	Quantity	Diameter (mm)
No Data Available		

Roof *type*

Construction	Added insulation (R-value)	Solar absorptance	Roof shade
as_ROOF-A031 #3015 © 22.5 deg Colourbond steel roof + Anticon R1.0 insul with no ceiling under	R1.0	30	Light

* Refer to glossary.

Explanatory notes

About this report

A NatHERS rating is a comprehensive, dynamic computer modelling evaluation of a home, using the floorplans, elevations and specifications to estimate an energy load. It addresses the building layout, orientation and fabric (i.e. walls, windows, floors, roofs and ceilings), but does not cover the water or energy use of appliances or energy production of solar panels.

Ratings are based on a unique climate zone where the home is located and are generated using standard assumptions, including occupancy patterns and thermostat settings. The actual energy consumption of a home may vary significantly from the predicted energy load, as the assumptions used in the rating will not match actual usage patterns. For example, the number of occupants and personal heating or cooling preferences will vary.

While the figures are an indicative guide to energy use, they can be used as a reliable guide for comparing different dwelling designs and to demonstrate that the design meets the energy efficiency requirements in the National Construction Code. Homes that are energy efficient use less energy, are warmer on cool days, cooler on hot days and cost less to run. The higher the star rating the more thermally efficient the dwelling is.

Accredited assessors

To ensure the NatHERS Certificate is of a high quality, always use an accredited or licenced assessor. NatHERS accredited assessors are members of a professional body called an Assessor Accrediting Organisation (AAO).

Australian Capital Territory (ACT) licensed assessors may only produce assessments for regulatory purposes using software for which they have a licence endorsement. Licence endorsements can be confirmed on the ACT licensing register

AAOs have specific quality assurance processes in place, and continuing professional development requirements, to maintain a high and consistent standard of assessments across the country. Non-accredited assessors do not have this level of quality assurance or any ongoing training requirements.

Any questions or concerns about this report should be directed to the assessor in the first instance. If the assessor is unable to address these questions or concerns, the AAO specified on the front of this certificate should be contacted.

Disclaimer

The format of the NatHERS Certificate was developed by the NatHERS Administrator. However the content of each individual certificate is entered and created by the assessor to create a NatHERS Certificate. It is the responsibility of the assessor who prepared this certificate to use NatHERS accredited software correctly and follow the NatHERS Technical Notes to produce a NatHERS Certificate.

The predicted annual energy load in this NatHERS Certificate is an estimate based on an assessment of the building by the assessor. It is not a prediction of actual energy use, but may be used to compare how other buildings are likely to perform when used in a similar way.

Information presented in this report relies on a range of standard assumptions (both embedded in NatHERS accredited software and made by the assessor who prepared this report), including assumptions about occupancy, indoor air temperature and local climate.

Not all assumptions that may have been made by the assessor while using the NatHERS accredited software tool are presented in this report and further details or data files may be available from the assessor.

Glossary

Annual energy load	the predicted amount of energy required for heating and cooling, based on standard occupancy assumptions.
Assessed floor area	the floor area modelled in the software for the purpose of the NatHERS assessment. Note, this may not be consistent with the floor area in the design documents.
Ceiling penetrations	features that require a penetration to the ceiling, including downlights, vents, exhaust fans, rangehoods, chimneys and flues. Excludes fixtures attached to the ceiling with small holes through the ceiling for wiring, e.g. ceiling fans; pendant lights, and heating and cooling ducts.
Conditioned	a zone within a dwelling that is expected to require heating and cooling based on standard occupancy assumptions. In some circumstances it will include garages.
Custom windows	windows listed in NatHERS software that are available on the market in Australia and have a WERS (Window Energy Rating Scheme) rating.
Default windows	windows that are representative of a specific type of window product and whose properties have been derived by statistical methods.
Entrance door	these signify ventilation benefits in the modelling software and must not be modelled as a door when opening to a minimally ventilated corridor in a Class 2 building.
Exposure category – exposed	terrain with no obstructions e.g. flat grazing land, ocean-frontage, desert, exposed high-rise unit (usually above 10 floors).
Exposure category – open	terrain with few obstructions at a similar height e.g. grasslands with few well scattered obstructions below 10m, farmland with scattered sheds, lightly vegetated bush blocks, elevated units (e.g. above 3 floors).
Exposure category – suburban	terrain with numerous, closely spaced obstructions below 10m e.g. suburban housing, heavily vegetated bushland areas.
Exposure category – protected	terrain with numerous, closely spaced obstructions over 10 m e.g. city and industrial areas.
Horizontal shading feature	provides shading to the building in the horizontal plane, e.g. eaves, verandahs, pergolas, carports, or overhangs or balconies from upper levels.
National Construction Code (NCC) Class	the NCC groups buildings by their function and use, and assigns a classification code. NatHERS software models NCC Class 1, 2 or 4 buildings and attached Class 10a buildings. Definitions can be found at www.abcb.gov.au.
Opening percentage	the openability percentage or operable (moveable) area of doors or windows that is used in ventilation calculations.
Provisional value	an assumed value that does not represent an actual value. For example, if the wall colour is unspecified in the documentation, a provisional value of 'medium' must be modelled. Acceptable provisional values are outlined in the NatHERS Technical Note and can be found at www.nathers.gov.au
Reflective wrap (also known as foil)	can be applied to walls, roofs and ceilings. When combined with an appropriate airgap and emissivity value, it provides insulative properties.
Roof window	for NatHERS this is typically an operable window (i.e. can be opened), will have a plaster or similar light well if there is an attic space, and generally does not have a diffuser.
Shading device	a device fixed to windows that provides shading e.g. window awnings or screens but excludes eaves.
Shading features	includes neighbouring buildings, fences, and wing walls, but excludes eaves.
Solar heat gain coefficient (SHGC)	the fraction of incident solar radiation admitted through a window, both directly transmitted as well as absorbed and subsequently released inward. SHGC is expressed as a number between 0 and 1. The lower a window's SHGC, the less solar heat it transmits.
Skylight (also known as roof lights)	for NatHERS this is typically a moulded unit with flexible reflective tubing (light well) and a diffuser at ceiling level.
U-value	the rate of heat transfer through a window. The lower the U-value, the better the insulating ability.
Unconditioned	a zone within a dwelling that is assumed to not require heating and cooling based on standard occupancy assumptions.
Vertical shading features	provides shading to the building in the vertical plane and can be parallel or perpendicular to the subject wall/window. Includes privacy screens, other walls in the building (wing walls), fences, other buildings, vegetation (protected or listed heritage trees).